

### **Abstract**

The invention relates to targeting molecules to subcellular locations. In particular, the invention relates to compositions and methods to target molecules to the 5 sarco(endo)plasmic reticulum (SR). The invention includes uses for polypeptide sequences as a localization signal to target therapeutic and experimental compounds or macromolecules to the SR of eukaryotic cells. The invention also includes nucleotide sequences encoding the polypeptide SR localization signal, allowing it to be incorporated into vectors for delivery of therapeutic or experimental gene products via in vitro or in 10 vivo gene transfer.